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ALASKA ECONOMIC TRENDS

Alaska Department of Labor Bill Sheffield, Governor, State of Alaska

1 Engineer Shortage: Myth vs. Reality

ALASKA ECONOMIC TRENDS

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The following notes pertain to Nonagricultural Wage and Salary Employment Tables:

Government includes teachers in primary and secondary schools, and personnel employed by the University of Alaska.

Benchmark Date March 1982.

P/ Denotes preliminary estimates.

R/ Denotes revised estimates.

The base year for the Composite Nonagricultural Employment Indexes graph appearing on page 12 is 1980. (1980 annual average employment = 100.0 for all three series).

ENGINEER SHORTAGE: MYTH VS. REALITY

By Betsy Jensvold

Introduction

During the last few years, reports about shortages of engineers have been frequent, and many observers have expressed concern that shortages may intensify. A closer inspection of the facts, however, indicates that recent shortages have been slight, or limited to particular specialities. In fact, according to the latest projections by the Bureau of Labor Statistics (BLS), there should be an overall balance between supply and demand throughout the 1980's.

This article explains why there is good reason not to believe in the widely publicized "engineer shortage." In addition, it describes the employment outlook for engineers in the United States and in Alaska, and identifies and explains the problems which do exist, and why some of those problems are unavoidable.

Is There a National Shortage? *1/*

One of the major reasons there have been so many conflicting reports about shortages of engineers is the fact that "shortage" has been defined in different ways by different people. In traditional economic terms, a shortage means that sufficient workers are not available and willing to work at the existing wage. Therefore, although the lengthy training period may cause delays in supply adjustments, raising wages should eliminate the shortage.

Unfortunately, there is no direct measurement of shortage since data collection programs do not gather information about job vacancies. However, related information about salaries, unemployment, transfers out of the occupation, and surveys of employers can assist in evaluating the market for engineers.

Salaries are a good indicator of market conditions since shortages are unlikely to occur without some bidding up of salaries. Table 1 shows the average starting salary of engineers relative to the average starting salaries of five other professional occupations—accountants, auditors, attorneys, buyers, and chemists. Note that beginning engineers have earned slightly more in recent years (in relation to other professionals) than they did during either the mid 1970's, which was a period of moderate demand, or in the early 1960's, which was a period of high demand. In contrast, Table 2 shows the average salary for experienced engineers relative to the average salary for experienced workers in the same five professional occupations. Clearly, some of the edge which new engineers have over other professions

Table 1. Starting salaries of engineers relative to starting salaries of other professional occupations and average salaries of all college-educated men, 1963-82

Year	Ratio of engineers' starting salaries to: Average starting salaries of 5 professional occupations	Men 18 years and over with 4 or more years of college
1963	—	.751
1964	—	.747
1965	—	—
1966	1.128	.696
1967	1.124	.753
1968	1.132	.738
1969	1.098	.728
1970	1.088	.753
1971	1.073	.758
1972	1.062	.718
1973	1.060	.695
1974	1.081	.737
1975	1.075	.716
1976	1.107	.717
1977	1.107	.693
1978	1.136	.703
1979	1.167	.702
1980	1.184	.740
1981	1.211	.771
1982	1.193	—

Source: Bureau of Labor Statistics.

Table 2. Salaries of experienced engineers relative to salaries of experienced professionals and college-educated men, 1963-82

Year	Ratio of experienced engineers' salaries to: Experienced workers in 5 professional occupations	Men 18 years and over with 4 or more years of college
1963	—	1.141
1964	—	1.120
1965	—	—
1966	1.205	1.056
1967	1.194	1.115
1968	1.191	1.072
1969	1.140	1.046
1970	1.132	1.084
1971	1.130	1.103
1972	1.123	1.063
1973	1.127	1.056
1974	1.112	1.111
1975	1.110	1.077
1976	1.113	1.069
1977	1.117	1.047
1978	1.112	1.059
1979	1.139	1.051
1980	1.122	1.085
1981	1.117	1.113
1982	1.123	—

Source: Bureau of Labor Statistics.

is lost as they remain in the occupation. This is consistent with the fact that new graduates have been in short supply since the late 1970's while experienced engineers have not.

Unemployment of engineers is another indicator of supply, since a decrease in unemployment would be expected during a shortage. Table 3 shows the unemployment rate for engineers from 1963-1982. Note that the recent rates of 1.2-2.4% are consistent with a slight shortage but not a severe one.

The frequency with which people leave an occupation can also indicate a shortage. For instance, if engineers are in short supply, one would expect employers to try to retain employees, thus reducing the rate at which engineers leave the field. BLS reports that 4.4% of all engineers left their field during 1980. While this rate is considerably lower than the 8.9% rate for all occupations, it is only slightly lower than the 5.1% rate for all professional and technical workers. Such a transfer rate may be consistent

Table 3. Engineers' unemployment rates, 1962-83

Year	Rate
1963	1.2%
1964	1.5
1965	1.1
1966	0.7
1967	0.7
1968	0.7
1969	0.8
1970	2.2
1971	2.9
1972	1.9
1973	1.0
1974	1.4
1975	2.6
1976	2.0
1977	1.3
1978	1.2
1979	1.2
1980	1.3
1981	1.5
1982	2.4

Note: The standard error of the 1982 rate is 4.4%. Other years' standard errors may vary slightly.
Source: Bureau of Labor Statistics.

with moderate shortages, but not with critical shortages. BLS data are not available for other time periods. However, National Science Foundation data indicate that the turnover rate was similiar from 1968-1972 (4.3%) and 1972-1978 (3.7%), both periods of reasonably good supply.

Another way to judge market conditions is simply to ask employers whether or not there is a shortage. The National Science Foundation surveyed 225 firms in October 1981. Although they found probable shortages in computer, electrical, electronic, and petroleum engineering; a rough balance in industrial, chemical, and mechanical engineering; and a probable surplus in civil engineering, there was disagreement over what constitutes an adequate supply. Many employers reported a shortage because they had been forced to offer higher salaries than planned, or to hire graduates with a lower class rank than desired. Of all those reporting a shortage, only 3% said they had reduced production or research and development as a result. The National Science Foundation repeated the survey in August 1982, and found that employers reported fewer shortages than in the previous year.

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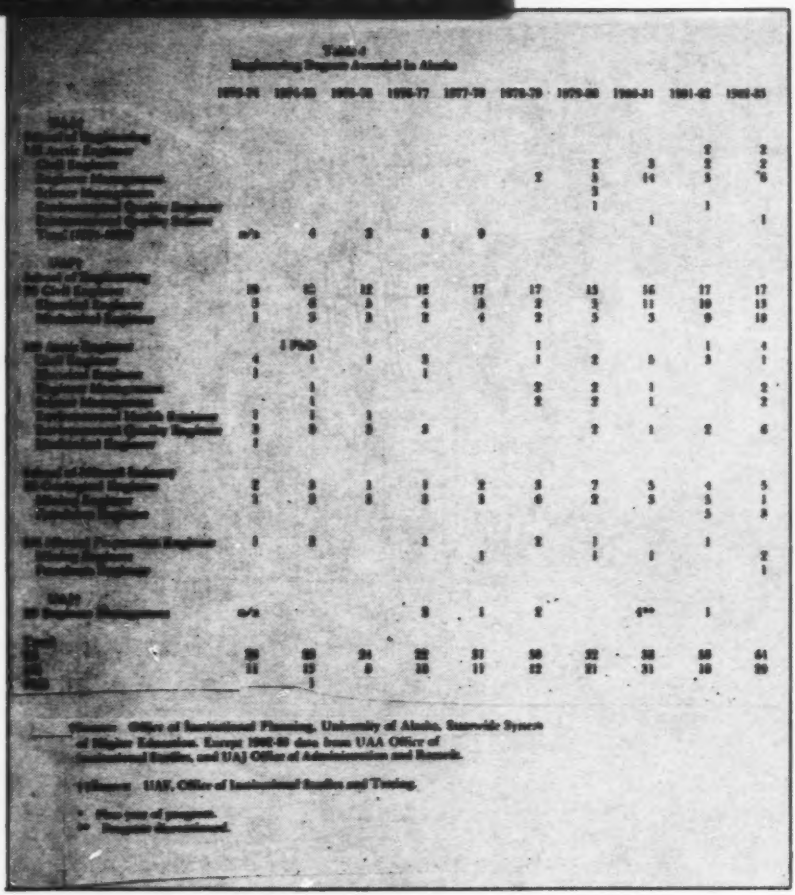


National Employment Outlook *2/*

Two separate sets of projections are needed in order to forecast a future labor market: projections of demand and projections of supply. Studies which focus on only one side of this relationship may well reach inaccurate conclusions. In addition, care must be taken to recognize methodological biases and to avoid making extrapolations based on invalid assumptions. For instance, many of the reports which caused alarm by predicting severe shortages of engineers contained errors of this sort. One of the most widely publicized was the American Electronic Association's "Technical Employment Projections of Professionals and Paraprofessionals." This report was also one of the most widely criticized. It focused primarily on demand, and overstated future requirements because of biases inherent in its methodology.

In contrast, BLS has projected that requirements for engineers will be in rough balance with supply, on average, for the rest of the 1980's. BLS has projected that there will be 120,000 to 136,000 openings annually throughout the 1980's, depending on the rate of growth. Three-fourths of these openings are expected to be the result of replacement needs. Actual growth is expected to be 2.5-3.2% a year—a rate which is faster than the average projected for all occupations, but slower than the 4.7% annual growth achieved over the 1976-1981 period. These projections are based on several assumptions, including enough growth in the economy to reduce unemployment, increased productivity, and increased defense expenditures.

The picture is not complete, however, without evaluating the supply side. The National Center for Education Statistics has projected that an average of 74,000 bachelor's degrees in engineering and engineering technology will be awarded annually between 1980 and 1990. If entry rates observed during the 1970's continue, roughly 60,000 new engineering graduates will seek engineering jobs each year. Since employers have a preference for recent graduates, virtually all of them can be expected to find work. As a result, between 44% and 50% of the projected 120,000 to 136,000 job openings during the 1980's could be filled by those graduates.

This might indicate a potential shortage; however, during 1980 only about 44% of those who entered engineering were recent engineering graduates. Most other entrants were transfers from other occupations, although some were recent science and mathematics graduates, immigrant engineers, or persons over 55 who had not worked the previous year. Therefore, if the supply of new engineering graduates maintains current levels and if roughly the same percentage seek engineering jobs as did in the 1970's, no major imbalances will occur.

Is There an Alaskan Shortage?

Unfortunately, information about whether a shortage of engineers exists in Alaska is even harder to pin down than it is at the national level. No data have been compiled on unemployment or turnover rates, and limited salary information does not span enough years to identify trends or relationships. However, a casual survey of the student placement offices at the University of Alaska, Anchorage and the University of Alaska, Fairbanks indicates that graduates have had little difficulty finding work. Similar discussions with the deans of all three engineering schools support this conclusion.

Alaskan Employment Outlook

The current distribution of Alaskan engineers among industries, fields, and geographic areas is illustrated in three pie charts. Current distribution is important because future distribution is expected to follow the same general pattern. Consequently, the fact that particular specialities, areas, and industries dominate the overall picture is very important.

Rough estimates by the Alaska Department of Labor indicate that about 80-100 job openings will occur each year through 1988 as a result of industry growth. This prediction is based on the conservative assumption that current industry trends will continue. Assuming the BLS estimate that only one-fourth of the job openings for engineers will be due to growth holds true in Alaska, the total number of job openings each year should be between 320 and 400.

To evaluate the future supply of engineers it is necessary to look at the training programs which are available today. There are currently three engineering training programs in Alaska: the University of Alaska, Anchorage (UAA), School of Engineering; the University of Alaska, Fairbanks (UAF), School of Engineering; and the University of Alaska, Fairbanks, School of Mineral Industry. All three programs offer graduate and undergraduate training. However, the UAA undergraduate program is still quite young, and limited to civil engineering.

Table 4 lists the number of degrees awarded in each major at each school in Alaska. Only bachelor degree recipients should be used to estimate the supply of newly trained engineers because most graduate engineering students in Alaska continue to work while attending school, and consequently, are not entering the labor force. If the 80% national entrance rate holds true in Alaska, and if 90% of them stay in Alaska to work (as they did between 1973 and 1978) *2/*, then the 64 graduates in 1982-1983 should have resulted in about 47 individuals entering engineering positions in Alaska. This means that less than one-fifth of the job openings for engineers in Alaska were filled by recent Alaskan graduates. This proportion is very low, even taking into account the fact that recent engineering graduates accounted for only 44% of those who entered engineering nationwide in 1980. The supply in Alaska is improving, however. The number of bachelor degrees awarded has grown consistently in recent years, and all three programs report that enrollment has jumped significantly in the past year or two. Continuing increases in the number of degrees awarded are expected.

PROBLEMS IN THE DEMAND/SUPPLY EQUILIBRIUM

Unavoidable Short Term Imbalances

Although BLS has projected an overall balance through the decade, imbalances over short periods of time and among specialties are inevitable. Demand for engineers depends on a wide variety of factors, including technological developments, the general economic condition of the country, and public willingness to support defense, space, and public works projects. All of these factors fluctuate, some of them quickly and dramatically.

The minimum time required to train an individual as an engineer is four

years. Alternative sources of supply, such as transfers from other fields, make adjustments possible, but there are limits to how quickly supply can be increased or decreased. In addition, in situations where new technology is significantly different from the old, some employers prefer to hire recent graduates rather than to re-train their older employees. Consequently, cyclical student enrollments tend to trail industry needs by four or five years.

Obsolescence Among Engineers

Obsolescence is a valid concern among engineers. However, there are factors which increase the risk, as well as ways of minimizing the danger. Engineers who are particularly susceptible to obsolescence include those who work in fields where technology is changing rapidly or where demand fluctuates drastically, as well as those who allow themselves to become overly specialized in a narrow area of technology. The risk of obsolescence can be minimized by choosing an industry, an employer, and a job function where changes occur more slowly. Most jobs in Alaska fall into this category. Some individuals sidestep the problem altogether by moving out of engineering into fields where their experience is more important than their technical expertise, such as management, administration, or sales. Continuing education is, of course, vital; especially for engineers who specialize in areas of rapidly changing technology.

Public Sector Salaries

Whenever a shortage of engineers exists, rising salaries should, over time, cause supply to rise to meet demand. Although this causes only minor difficulties for most private sector employers, it causes major problems for many public sector employers who often do not have the flexibility to raise engineers' salaries without raising the salaries of all other employees. This creates a class of employers who routinely have difficulty attracting and retaining engineers. Primary employers of this sort are universities, governmental agencies and the military. However, this is probably less of a problem in Alaska than in most of the country, since wages in the public sector more nearly match those in the private sector.

Engineering Faculty Shortage

Because colleges and universities often have inflexible salary schedules and scarce or obsolete laboratory equipment, they often find it difficult to attract and retain qualified faculty. According to the National Science Foundation, about 10% of engineering faculty jobs were vacant in the fall of 1980. Although BLS has predicted that the number of degree recipients would only have to remain at the 1981 level for supply and demand to be in rough balance through the 1980's, a faculty shortage such as this has the potential to cause either a decline in the quality of engineering education, or a decrease in the number of graduates.

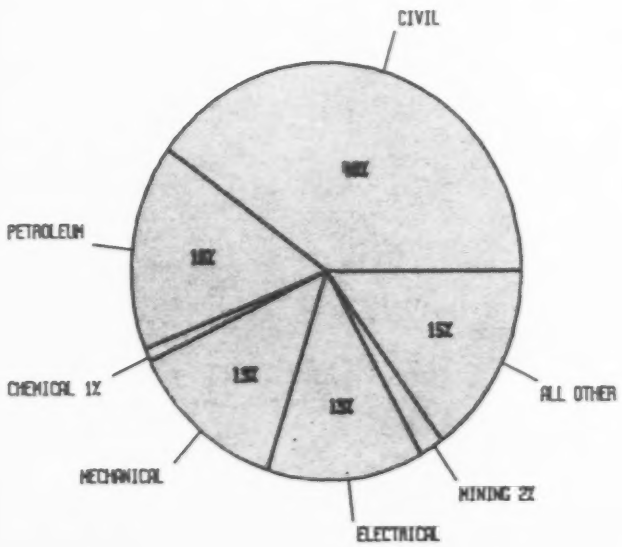
Summary

The publicized engineer shortage crisis has not occurred, and it is not expected to occur. There is clearly a strong demand for engineers. The employment outlook for engineers in the 1980's is good, both in the United States and in Alaska. Unfortunately, short term imbalances are unavoidable, and the required training period will cause an inevitable lag in supply. Cause for concern over the quality of engineer training programs has occurred because of the difficulty attracting and retaining qualified faculty, and the fact that laboratory equipment is scarce or obsolete at many universities. For individuals who wish to remain working as engineers, continuing education is absolutely vital. For those who do not, opportunities exist in management, administration, and sales.

1/ Condensed from "Occupational Outlook Quarterly"; U.S. Department of Labor, BLS, Summer 1983.

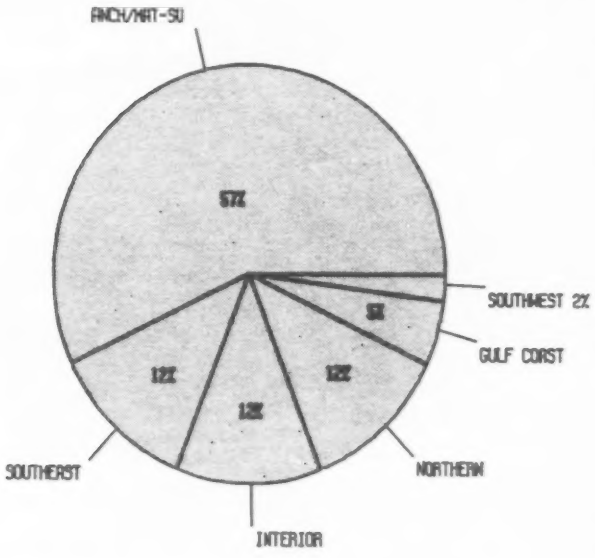
2/ 'Recommendations Regarding the Future Development and Organization of University of Alaska Engineering Programs,' Alaska Commission on Post Secondary Education, March 1979.

Distribution of Alaska Engineers by Field
1983

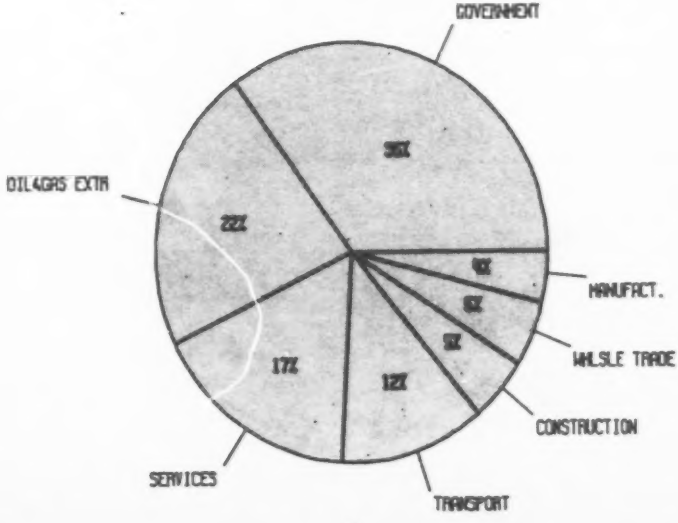


Source: Alaska Department of Labor, Research and Analysis, Occupational Employment Statistics.

Distribution of Alaska Engineers by Geographic Area
1983



Distribution of Alaska Engineers by Industry
1983



ALASKA

By John Boucher

September nonagricultural wage and salary employment for Alaska was 224,500, down 2.5% compared to August and 3.6% above the September 1982 level. For the third consecutive month, seafood processing has played a dominant role in the month to month change of total employment, overwhelming any gains or losses in other sectors of the economy.

Food and kindred products employment declined 41.1% during September. This month brought to a close one of the most prodigious salmon harvesting years in the State's history, and with it came the decline of fish processing employment. The downturn in 1983 was more dramatic than normal for two reasons: the peak of employment in July was a record high due to the record Bristol Bay salmon run and the shellfish catch, which normally helps offset the September downturn in employment, has been poor.

Other than food and kindred products, the only other major change in the employment picture was an 8.1% increase in local government. The beginning of the school year was responsible for the pickup in local government employment. Mining registered a 2.2% drop in over the month employment, largely due to decreased employment in the metal mining sector of the industry. Construction registered a gain of less than 1% over the month, and will most likely begin a seasonal decline over the next several months.

Unemployment

Alaska's unemployment rate dropped .6 of a percentage point to 7.6% in September. The unemployment rate is at its lowest point since August of 1979, when it was 7.3%. A drop from August to September is typical of the Alaskan unemployment rate, but this year's decline is considered steeper than normal.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
BY PLACE OF WORK
ALASKA

			CHANGES FROM:		
	P/ 9/83	R/ 8/83	9/82	8/83	9/82
Nonag. Wage & Salary	224500	230300	216800	-5800	7700
Mining	8500	8700	9500	-200	-1000
Construction	23900	23700	22100	200	1800
Manufacturing	15700	22200	16300	-6500	-600
Food & Kindred Prod.	9300	15800	9900	-6500	-600
Lumber & Paper Prod.	3200	3200	3400	0	-200
All Other Mfg.	3200	3200	3000	0	200
Trans. Comm. & Util.	19800	19900	19500	-100	300
Trucking & Whseing.	2400	2500	2500	-100	-100
Water Transportation	1600	1600	1600	0	0
Air Transportation	5700	5900	5900	-200	-200
Other Trans. Comm. & Utilities	10100	9900	9500	200	600
Trade	43300	43300	39700	0	3600
Wholesale Trade	8400	8400	7500	0	900
Retail Trade	34900	34900	32200	0	2700
Gen. Merchandise & Apparel	5400	5200	4600	200	800
Food Stores	5700	5700	5100	0	600
Eating & Drinking Places	12500	12500	11900	0	600
Other Retail Trade	11300	11500	10600	-200	700
Finance-Ins. & R. Estate	11000	11000	9900	0	1100
Services & Misc.	40700	41800	38100	-1100	2600
Government	61600	59700	61700	1900	-100
Federal	17700	17900	17900	-200	-200
State	18600	18400	18800	200	-200
Local	25300	23400	25000	1900	300

Prepared in cooperation with the U.S. Bureau of Labor Statistics.

Government includes teachers in primary and secondary schools, and personnel employed by the University of Alaska.

Benchmark Date March 1982.

P/ Denotes preliminary estimates.

R/ Denotes revised estimates.

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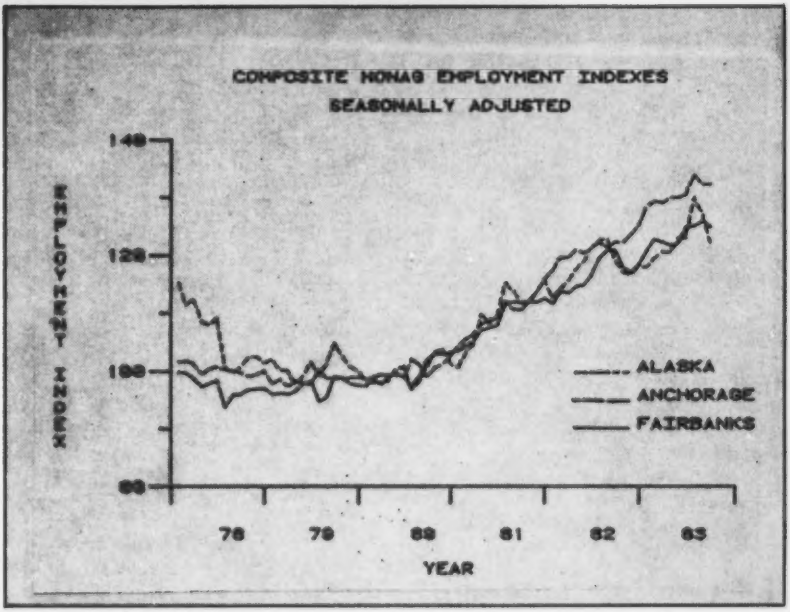

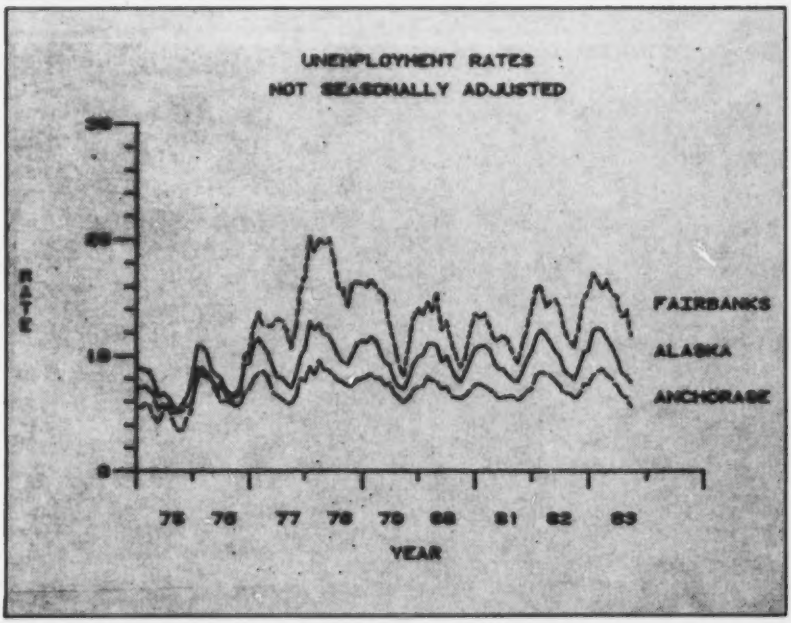

LABOR FORCE BY REGION AND CENSUS DIVISION

	Labor Force			Unemployment			Rate			Employment		
	P 9/83	*R* 8/83	9/82	*P* 9/83	*R* 8/83	9/82	*P* 9/83	*R* 8/83	9/82	*P* 9/83	*R* 8/83	9/82
Alaska Statewide	221539	231989	211785	16909	18965	16807	7.6	8.2	7.9	204630	213024	194978
Anchorage-Matsu Region	113722	116876	107955	7034	8040	7339	6.2	6.9	6.8	106688	108836	100616
Anchorage	102573	105390	97467	5772	6640	6175	5.6	6.3	6.3	96801	98750	91292
Matanuska-Susitna	11149	11486	10488	1262	1400	1164	11.3	12.2	11.1	9887	10086	9324
Gulf Coast Region	24802	28986	23179	2411	2233	2703	9.7	7.7	11.7	22391	26753	20476
Cordova	1278	1480	1165	79	48	69	6.2	3.2	5.9	1199	1432	1096
Kenai	12904	15123	12031	1495	1492	1598	11.6	9.9	13.3	11409	13631	10433
Kodiak	5508	6342	5229	395	233	553	7.2	3.7	10.6	5113	6109	4676
Seward	1782	2068	1710	185	160	250	10.4	7.7	14.6	1597	1908	1460
Valdez	3330	3973	3044	257	300	233	7.7	7.6	7.7	3073	3673	2811
Interior Region	28961	30501	27256	3253	4136	2807	11.2	13.6	10.3	25708	26365	24449
Fairbanks	23721	24993	22304	2767	3504	2376	11.7	14.0	10.7	20954	21489	19928
Southeast Fairbanks	2300	2412	2154	198	256	155	8.6	10.6	7.2	2102	2156	1999
Upper Yukon	728	765	666	101	122	70	13.9	15.9	10.5	627	643	596
Yukon-Koyukuk	2212	2331	2132	187	254	206	8.5	10.9	9.7	2025	2077	1926
Northern Region	11488	11597	9755	768	1060	635	6.7	9.1	6.5	10720	10537	9120
Barrow North Slope	3094	3084	2631	202	242	171	6.5	7.8	6.5	2892	2842	2460
Kobuk	3578	3680	3052	251	410	222	7.0	11.1	7.3	3327	3270	2830
Nome	4816	4833	4072	315	408	242	6.5	8.4	5.9	4501	4425	3830
Southeast Region	31213	32378	32307	2692	2574	2582	8.6	7.9	8.0	28521	29804	29725
Angoon	421	466	427	44	72	34	10.5	15.5	8.0	377	394	393
Haines	1053	1092	1103	91	86	100	8.6	7.9	9.1	962	1006	1003
Juneau	11261	11717	11495	908	899	704	8.1	7.7	6.1	10353	10818	10791
Ketchikan	6518	6755	6670	518	485	417	7.9	7.2	6.3	6000	6270	6253
Outer Ketchikan	799	800	814	92	61	77	11.5	7.6	9.5	707	739	737
Prince of Wales	1531	1563	1567	211	184	192	13.8	11.8	12.3	1320	1379	1375
Sitka	4548	4710	4965	365	339	606	8.0	7.2	12.2	4183	4371	4359
Skagway	1610	1655	1577	215	197	123	13.4	11.9	7.8	1395	1458	1454
Wrangell-Petersburg	3472	3620	3689	248	251	329	7.1	6.9	8.9	3224	3369	3360
Southwest Region	11353	11651	11333	751	922	741	6.6	7.9	6.5	10602	10729	10592
Aleutian Islands	3026	3052	2994	143	134	114	4.7	4.4	3.8	2883	2918	2880
Bethel	3662	3825	3667	289	410	297	7.9	10.7	8.1	3373	3413	3370
Bristol Bay Borough	404	401	413	24	16	33	5.9	4.0	8.0	380	385	380
Bristol Bay	1492	1512	1505	68	71	83	4.6	4.7	5.5	1424	1441	1422
Kuskokwim	1003	1046	983	83	115	64	8.3	11.0	6.5	920	931	919
Wade Hampton	1766	1817	1771	144	176	150	8.2	9.7	8.5	1622	1641	1621

P/=Preliminary 1982 Benchmark

R/=Revised

Federal guidelines require the use of unrounded labor data, adjusted to be consistent with the Current Population Survey (CPS) in formulas used to allocate federal funds. Comparisons between different time periods are not as meaningful as other time series published by the Alaska Department of Labor; because Alaska's CPS sample size is inadequate to accurately indicate monthly changes in level. The sampling errors are random in nature; meaning that the unemployment rates, in any given month, are as likely to be high as frequently as they are low. The official definitions of unemployment, currently in place, exclude anyone who has made no attempt to find work in the four week period up to and including the week that includes the twelfth of each month. Most economists feel that Alaska's bush localities have proportionately more of these discouraged workers.

ANCHORAGE-MATSU

By Greg Huff

The CPI and Anchorage's Tax Increase Limitation

The Consumer Price Index (CPI), the most common indicator of change in the "cost of living", is used as an escalator in numerous contracts, leases and government entitlement programs. Recently, Anchorage voters passed Proposition 24, a tax increase limitation which in part will be tied to changes in the Anchorage CPI. This article reviews what data are available from the CPI in light of the initiative's vague language concerning the index. The only reference to the CPI in the initiative was that the federal consumer price index for Anchorage from the preceeding fiscal year be used. (NOTE: Municipality of Anchorage fiscal year is from January to December.)

The Anchorage CPI figures are released bi-monthly (January-November). The figures include the calculations for the CPI-W (Consumer Price Index for Wage and Clerical Workers) and the CPI-U (Consumer Price Index for All Urban Consumers). The two CPIs are based on different "market baskets" of purchased goods and services. The CPI-U approximates the buying habits of 80% of the population, while the CPI-W approximates the buying habits of 40% of the population. The CPI-U is the more commonly used index and reported in headlines.

From January to July of this year the Anchorage Consumer Price Index (CPI-U) registered increases below historical levels. During the last five months, the index's over-the-year change did not exceed 1% and, in fact, fell in May. This decline in inflation is misleading because of methodology changes causing inconsistency between 1983 and 1982 data. Because of this the BLS has recommended that in the short term, users of the CPI use either 1) a 12 month annual average, or 2) the U.S. rate; or 3) compare 1983 data only. Looking at the Anchorage CPI-U this way the index has risen 3.2% from January through July. If the CPI continues this same trend it will increase between 5.0% and 6.0% for the 1983 average. (Table 1 contains selected CPI changes from 1979 to the present index).

Because of the vague language concerning the usage of the CPI within the tax limitation initiative, Anchorage voters can expect debate from various political camps regarding the details of which CPI figure will be used in the calculation of tax increases.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
BY PLACE OF WORK
ANCHORAGE

	P/ 9/83	R/ 8/83	9/82	CHANGES FROM: 8/83	9/82
Nonag. Wage & Salary	105650	110650	101250	-1000	8400
Mining	3250	3350	3450	-100	-200
Construction	11850	11550	10100	300	1750
Manufacturing	2700	3400	2300	-700	400
Food & Kindred Prod.	400	950	400	-550	0
Other Mfg.	2300	2450	1900	-150	400
Trans. Comm. & Util.	9250	9700	8450	-450	800
Trucking & Whseing.	1250	1350	1200	-100	50
Water Transportation	400	400	350	0	50
Air Transportation	3650	3900	3300	-250	350
Trade	25650	25800	23650	-150	2000
Wholesale Trade	6100	6150	5450	-50	650
Retail Trade	19550	19650	18200	-100	1350
Gen. Merchandise	1700	1750	1600	-50	100
Food Stores	2500	2550	2400	-50	100
Eating & Drinking Places	7500	7500	7100	0	400
Other Retail Trade	7850	7850	7100	0	750
Finance-Ins. & R. Estate	7200	7200	6450	0	750
Services & Misc.	24500	24600	21900	-100	2600
Government	25250	25050	24950	200	300
Federal	10350	10400	9900	-50	450
State	6250	6100	6400	150	-150
Local	8650	8550	8650	100	0

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
BY PLACE OF WORK
ANCHORAGE-MATSU

	P/ 9/83	R/ 8/83	9/82	CHANGES FROM: 8/83	9/82
Nonag. Wage & Salary	115950	116550	107200	-600	8750
Mining	3350	3450	3550	-100	-200
Construction	12700	12450	11200	250	1500
Manufacturing	3050	3800	2650	-750	400
Trans. Comm. & Util.	9850	10250	8950	-400	900
Trade	26850	26950	24700	-100	2150
Finance-Ins. & R. Estate	7450	7450	6650	0	800
Services & Misc.	25850	25850	23100	0	2750
Government	26850	26350	26400	500	450

"Please see notes on back of title page."

Table 1
CPI-I Index Points and Changes for Selected Years

	Anchorage		U.S.	
	Index	% Change	Index	% Change
1979	207.0	-	217.4	-
1980	228.2	10.2	246.8	13.5
1981	246.5	8.0	272.4	10.4
1982	260.1	5.5	289.1	6.1
1983				
January	257.6	-	293.1	-
March	261.0	1.3	293.4	0.1
May	262.5	0.6	297.1	1.3
July	265.8	1.2	299.3	0.7

Labor Force

The September unemployment rate for the Anchorage-MatSu region followed historical patterns dipping to what may be the lowest point for the year. September rates fell despite overall declines in the number of jobs. Probable reasons include the departure of students who attend school and seasonal workers returning home.

Nonagricultural Employment

Nonagricultural employment in Anchorage and in the "valley" dropped in September primarily as a result of declines in food processing and in the air transportation industries. Seasonal forces also effected employment in other industries. Retail trade employment fell slightly due to the ending tourist season.

Over-the-year growth in Anchorage and MatSu continued to remain strong yet deterioration in some sectors has become apparent in recent months compared to 1982 growth.

FAIRBANKS/INTERIOR

By Neal Fried

Southeast Fairbanks-Tok and Delta
1980-1983

Southeast Fairbanks is basically made up of communities strung along the Alaska Highway and the Richardson Highway starting southeast of Fairbanks to Isibelli Pass. Some of the communities in the area are Tok, Nebesna, Big Delta, Delta Junction, Northway, Tanacross, Dot Lake, and Tetlin.

Southeast Fairbanks' wage and salary employment grew by 13% from 1980 to 1982, It continued to pick up steam in the first quarter of 1983, registering a 14% increase over the same quarter in 1982.

Many communities in the area cater to highway traffic. A dramatic increase in highway travel is partially responsible for the growth taking place in the area's economy. Most of this traffic comes from newcomers, tourists, and residents entering or leaving the state via the Alaska Highway.

With the completion of the oil pipeline in 1976 and skyrocketing gasoline prices, highway traffic dropped so dramatically, some communities along the highway worried that they would never make a comeback. In 1981, not only did tourist travel begin to pick up but economic refugees from elsewhere in the country began to pour into the state. The following year 139,436 people crossed through the Tok border station and 1983 appears to be a repeat of this. Highway travel of this volume only happened once before in 1975 during the height of pipeline construction.

The community which benefits most from this traffic is Tok, a town every car or bus has to pass through coming to Alaska via the Alaska Highway (unless Eagle is the sole destination). Tok has been a bustling community during the past two years. Many people are deciding to stop to eat, fix their cars, gas up, stay overnight or pick up some groceries before they travel to Fairbanks, Anchorage or some other destination in the state. There are more than five hotels in Tok and a new Sheffield hotel is now under construction. Though most people just pass through Tok, some stay since the Tok vicinity is where a large land disposal program has been taking place.

The state's record expenditures made during the past four years have also not left Tok unaffected. Expenditures include public construction (particularly road construction), state and school personnel, dividend payments and other state programs boosting employment.

The largest employer in Southeast Fairbanks remains government.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
BY PLACE OF WORK
FAIRBANKS

	P/	R/	CHANGES FROM:		
	9/83	8/83	9/82	8/83	9/82
Nonag. Wage & Salary	27900	28150	26950	-250	950
Mining	350	350	350	0	0
Construction	3450	3750	2900	-300	550
Manufacturing	550	550	500	0	50
Trans. Comm. & Util.	3100	3050	3150	50	-50
Trucking & Whseing.	500	500	550	0	-50
Air Transportation	650	650	600	0	50
Other Trans. Comm. & Utilities	1950	1900	2000	50	-50
Trade	5650	5600	5250	50	400
Wholesale Trade	900	900	950	0	-50
Retail Trade	4750	4700	4300	50	450
Gen. Merchandise & Apparel	450	400	400	50	50
Food Stores	800	750	650	50	150
Other Retail Trade	3500	3550	3250	-50	250
Finance-Ins. & R. Estate	1000	1000	1150	0	-150
Services & Misc.	5300	5600	5200	-300	100
Government	8500	8250	8450	250	50
Federal	2400	2500	2400	-100	0
State	3550	3500	3800	50	-250
Local	2550	2250	2250	300	300

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
BY PLACE OF WORK
INTERIOR

	P/	R/	CHANGES FROM:		
	9/83	8/83	9/82	8/83	9/82
Nonag. Wage & Salary	31750	32050	30950	-300	800
Mining	450	550	500	-100	-50
Construction	3600	3900	3000	-300	600
Manufacturing	600	600	550	0	50
Trans. Comm. & Util.	3950	3850	4050	100	-100
Trade	6200	6200	5650	0	550
Finance-Ins. & R. Estate	1100	1050	1200	50	-100
Services & Misc.	5900	6150	5550	-250	350
Government	9950	9750	10450	200	-500

"Please see notes on back of title page."

Government was responsible for 66% of wage and salary employment and 73% of the payroll in 1982. The single largest employer is the Federal Government. Fort Greely, just outside Big Delta, provides most of this Federal civilian employment. The Bureau of Land Management and other Federal agencies provide the balance. Federal employment grew by approximately 100 from 1980 to 1982, but it is not likely to grow much more because the military has no immediate plans for additional personnel and BLM is phasing out many of its people due to the state's acquisition of much BLM land in the area. State personnel are replacing these people and overall state and local government have contributed significantly to the growth in employment.

The Delta barley project is another state program which has contributed to growth in the area. The acreage of barley planted has tripled over the past four years (15 million acres in 1983). There are no hard facts regarding the employment this project has created in the area, but agricultural and infrastructure employment has been affected.

This growth does not mean Southeast Fairbanks has become a place of plenty and employment opportunity. Employment is extremely seasonal, swinging as much as 35% from the highest month to the lowest. Full-time, year-round jobs are scarce. The average unemployment rate for the area was 11.5% in 1982, hitting a high of 15.4% in February and a low of 7.2% in September. In the smaller communities of the area full time, wage employment is simply a luxury.

GULF COAST

By Neal Fried

Kodiak 1980-1983

During the 1980's, employment in the state has been growing at breakneck speed (23% since 1980). Announcements of new projects are grabbing headlines and communities are growing by leaps and bounds. Prosperity appears to be the order of the day, mostly fueled by record state expenditures made during the past four years.

In the midist of this record growth in employment, Kodiak's employment has not grown. There were actually fewer jobs in Kodiak in 1982 than in 1980. This trend appears to be continuing based on data for the first quarter of 1983. There is one simple reason why this occurred—a decline in fish processing employment, the single largest employer in Kodiak.

In 1980, fish processing employment averaged 1,544 jobs. That average dropped by 24% to 1,167 in 1982. This drop comes largely as a result of poor crab and shrimp catches during the past two years. The decline has been large enough to pull total employment down in Kodiak.

It would be unfair to blame fish processing alone for the decline in employment because Kodiak's logging industry has also hit the skids. Though the logging industry is much smaller, it has suffered losses because of worldwide recession.

This does not mean Kodiak's entire employment picture has remained bleak. There are industries that have flourished during these years.

Construction employment tripled from 1980 to 1982 and has continued to grow in 1983. Projects such as the Near Island bridge, Terror Lake dam, expansion of Dog Bay harbor, sewer and road building, in addition to a long list of other public construction projects, have boosted Kodiak's heavy construction employment. Residential construction is experiencing a surge, with the number of 1983 building permits issued through August (172) already exceeding the number issued during all of 1982. Commercial construction activity has also been on the upswing.

Retail trade is the other industry which has grown significantly during these years, adding approximately 100 jobs or 17.5% growth. All areas of retail trade have been growing, particularly the eating and drinking sector, mirroring the national trend.

Employment in most other industries has remained unchanged. Within government, the Federal sector lost employment, but state and local government increases more than made up for those losses.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
BY PLACE OF WORK
GULF COAST

	P/	R/	CHANGES FROM:		
	9/83	8/83	9/82	8/83	9/82
Nonag. Wage & Salary	20700	24300	20450	-3600	250
Mining	800	850	850	-50	-50
Construction	2100	2250	2250	-150	-50
Manufacturing	4000	7400	4000	-3400	0
Food & Kindred Prod.	3150	6550	3250	-3400	-100
All Other Mfg.	850	850	750	0	100
Trans. & Comm. Util.	2200	2100	2100	100	100
Trade	3200	3350	3050	-150	150
Wholesale Trade	600	550	500	50	100
Retail Trade	2600	2800	2550	-200	50
Finance-Ins. & R. Estate	500	500	500	0	0
Services & Misc.	3300	3500	3000	-200	300
Government	4600	4350	4700	250	-100
Federal	500	500	550	0	-50
State	1250	1400	1500	-150	-250
Local	2850	2450	2650	400	200

"Please see notes on back of title page."

Kodiak Nonagricultural Employment
1980-1982

	1980	1981	1982
Total Nonagricultural Employment	4,644	4,377	4,399
Mining	0	0	0
Construction	101	136	304
Manufacturing	1,880	1,547	1,275
Food & Kindred Products	1,544	1,424	1,167
Other Manufacturing	336	123	108
Transportation	352	320	297
Trade	•	595	708
Wholesale	•	17	27
Retail	576	578	681
Finance, Insurance, & Real Estate	98	95	101
Services & Miscellaneous	584	637	670
Government	1,038	1,051	1,044
Federal	286	257	252
State	207	253	260
Local	545	541	532

• Nondisclosable

The immediate outlook for total employment in Kodiak is not good due a poor shrimp forecast and to the closure of the king crab fishery. The effect this closure will have on employment is illustrated by the fact that during the last two years, 79% of the shellfish catch during October through January was king crab. Construction, trade and government employment will help cushion these losses, but this may be little condolence to Kodiak's fish processing workers and fishermen. If these declines in shellfish stock continue for a number of years it will put a heavy drag on all other sectors of the economy.

SOUTHEAST ALASKA

By John Boucher

Southeast Alaska nonagricultural wage and salary employment declined 3.0% in September to 31,250 jobs. Most of the decline came from the seafood processing industry.

Food and kindred products employment declined by 30% in September, signaling the end of a very strong year for the Southeast Alaska fishing industry. Unfortunately the fall shellfish season doesn't look very promising, so employment should drop off during the next several months. The only other industry with notable change over the month was government, which grew 4.0%. This was due to an 11.3% pickup in local government employment, as school personnel returned to work.

Skagway Unemployment

Readers might have noticed a recent change in methodology which made the unemployment rate for Skagway jump by 6.8 percentage points. Federal methodology for determining unemployment at the census division level does not normally include railroad unemployment claimants. Until recently, the number of unemployed railroad workers was included in the regional totals (i.e. Southeast, Interior, etc.) but it was not disaggregated to the various census divisions. For Skagway, where the railroad made a substantial contribution to the labor force, this meant a distortion in the local unemployment rate when the railroad laid off a large number of employees. The Alaska Department of Labor recently received permission from the Bureau of Labor Statistics to use railroad claims as well as UI claims in the disaggregation of regional unemployment to the census divisions. The recent upward revision of the Skagway unemployment rate is the result of this effort.

NONAGRICULTURAL WAGE AND SALARY EMPLOYMENT
BY PLACE OF WORK
SOUTHEAST ALASKA

			CHANGES FROM:		
	P/ 9/83	R/ 8/83	9/82	8/83	9/82
Nonag. Wage & Salary	31250	32200	32150	-950	-900
Construction	2150	2150	2100	0	50
Manufacturing	5200	6450	6150	-1250	-950
Food & Kindred Prod.	2500	3600	3100	-1100	-600
Lumber & Paper Prod.	2500	2650	2800	-150	-300
All Other Mfg.	200	200	250	0	-50
Trans. Comm. & Util.	2200	2250	2550	-50	-350
Trade	4550	4550	4500	0	50
Wholesale Trade	400	400	400	0	0
Retail Trade	4150	4150	4100	0	50
Finance-Ins. & R. Estate	1000	1000	1000	0	0
Mining, Svcs. & Misc.	4200	4300	4350	-100	-150
Government	11950	11500	11500	450	450
Federal	2550	2550	2400	0	150
State	5450	5400	5400	50	50
Local	3950	3550	3700	400	250

"Please see notes on back of title page."

Southeast Nonagricultural Employment
1980-1982

	1980	1981	1982
Total Nonagricultural Employment	1,088	1,151	1,228
Mining	•	•	•
Construction	18	27	18
Manufacturing	•	7	9
Transportation	40	42	34
Trade	•	•	•
Wholesale	•	•	•
Retail	102	126	156
Finance, Insurance, & Real Estate	20	25	25
Services	255	230	163
Government	645	682	814
Federal	303	321	411
State	118	120	122
Local	223	241	290

• Nondisclosable

HOURINGS AND EARNINGS

By Kathryn Lizik

August hours and earnings held steady with July experiencing slight increases in the summer oriented industries of construction, manufacturing and transportation, communications and utilities.

Construction continued to remain strong as residential and commercial building projects progressed towards their finished status.

The food and kindred products sector of manufacturing saw a slight dip in average hourly earnings (1%) along with a 9% increase in average weekly hours as additional temporary crews were brought on to help process the record salmon harvests.

The 7% increase in the average hourly earnings of transportation, communication and utilities was partially due to the trucking industry's annual union pay increase.